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ABSTRACT

Several research studies were reviewed to formulate a definition of metacomprehension in elementary school children. Although much additional research is needed, the one conclusion evident from the review is that metacomprehension is not a unitary phenomenon. It encompasses several kinds of abilities and degrees of awareness that may appear at different ages and interact with various task demands and situations; so it may manifest itself in certain circumstances but not in others. Younger elementary school children do not seem to utilize spontaneously the many options they have available for improving their comprehension. Studies have shown how various manipulations can be employed to increase the possibility that children will attend to significant features of texts, indicating that instructional procedures can be developed to train students to become more sensitive to their own comprehension. (RL)

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Metacomprehension and School-aged Children's Reading: An Overview

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While theoretical discussion and empirical investigation of metacomprehension and related cognitive abilities may be a relatively recent development, serious questions already have arisen regarding the nature of these phenomena. The problem may be viewed as definitional; but, if so, it is not trivial. Clarity of definition is important since whichever definition of metacomprehension is chosen will guide the investigation of it, influence what is accepted as evidence for it, and shape detection of developmental patterns. Definition of all "metas" is difficult and, perhaps necessarily imprecise because these are phenomena which are not available to overt inspection or observation. Nevertheless, this paper will present a common definition of metacomprehension and the behaviors it generally connotes, suggest possible difficulties with this conception of it, and then review existing studies of, primarily,

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school-aged children's metacomprehension ability to see whether the research that does exist in this area can clarify some of these issues and suggest useful instructional approaches.

Ann Brown (in press) describes those metacomprehension skills or reading strategies which may be essential for comprehension. In general, these refer to, ". . . any deliberate planful control of activities that gives birth to comprehension." In particular, such skills or abilities include understanding explicit and implicit task demands, identifying important parts of a passage, adjusting attention according to purpose, monitoring ongoing comprehension, identifying and remedying failures of comprehension, and noting inconsistencies and ambiguities in text. Brown (in press) explicitly makes a distinction between "intelligent processing" that may occur below the level of conscious awareness and the conscious control of strategy use that she takes as evidence for metacomprehension. She acknowledges, though, that this distinction is a difficult one. We perform many apparently planful actions of which we are not fully conscious, perhaps because they have become automatic through habitual use. Thus, another problem is what we will accept as evidence of conscious intent or control. If it requires an explicit verbal statement that we know what we are doing then we should not expect to find examples of metacomprehension ability much before the upper elementary grades, for such self reports are not common in young children. We can, however, find behavioral evidence of self-regulatory or planful activity in younger children, and if this evidence is seen to reflect metacognitive ability, then we should anticipate some indications of metacomprehension in early elementary grades.

This issue is discussed in a recent article by DeLoache and Brown (1979), who distinguish between knowledge about cognitive processes and regulation of them. The former ability, they maintain, is a more advanced and sophisticated one, but they present evidence of "rudimentary" self-regulatory skills in two-year-olds. Similar abilities are apparent in very young children's use of language as revealed by spontaneous self-corrections of pronunciation, word forms, or word order (Clark, 1978). Thus even toddlers seem to exhibit some abilities that are often considered metacognitive in nature. Brown (in press) has claimed that metacognitive ability is displayed by the expert regardless of age. Defining and identifying degrees of expertise, however, then become issues. More useful may be the contention that the interrelations among task demands, subject matter, and the cognitive ability of the child will determine whether a child will demonstrate the ability to monitor, regulate, and control such things as his or her understanding of something. Thus the position taken here is that explicit knowledge of one's own processes is not a necessary component of metacomprehension; some behavioral evidence of planful self-monitoring or regulation is sufficient. Therefore, even quite young children may display some metacomprehension abilities with simple tasks in familiar situations. The overview of experimental investigations of metacomprehension below will attempt to identify those circumstances under which certain metacomprehension abilities may appear.

At least three studies (Forrest & Waller, 1979; Myers & Paris, 1978; Pace, 1978) have utilized interview procedures to determine what school-aged children could actually report about the nature of reading and their own insights into comprehension processes. All three of these

investigations found that younger children (kindergarten or primary grade) revealed little explicit awareness of their own comprehension; only upper-elementary grade students seemed to be aware that they had a variety of resources or a number of strategies they could utilize to improve comprehension or learning. Pace (1978), in addition, related students' responses to interview questions to their comprehension and obtained a significant correlation between students' comprehension scores and ratings on interview questions which indicated greater insight into comprehension.

Some developmentally early metacomprehension abilities are the recognition of whether or not one has understood something and the use of some means to correct errors in comprehension when they occur. One of the first studies to look at children's awareness of their own comprehension was that by Markman (1977). She asked children in the first through the third grades to help her judge the adequacy of instructions for a game and a magic trick. However, she used instructions that were conspicuously incomplete, and her task was designed to reveal when and if children realized the deficiencies in the instructions. She found that third graders realized the inadequacy of the instructions significantly sooner than the first graders. Additionally, most first graders had to at least attempt to give the instructions themselves or even try to do the task before they realized they did not understand. This study thus demonstrated that children's comprehension problems may result from their lack of awareness that they do not understand. On these tasks, however, this awareness was achieved by about age eight or nine.

Pace (1978) examined whether kindergartners and children in the

second, fourth, and sixth grades would realize that they had a means available to improve their comprehension of a story and, if they did, whether they could do so successfully. One way they could increase comprehension was to listen to the story over again. Only one of the kindergartners realized this, compared to two-thirds or more of the second and fourth graders and all of the sixth graders. Moreover, students in the higher grades corrected a greater proportion of their responses after relistening to the story. In this study, only those children who had suggested listening again were given a chance to correct their replies to comprehension questions. In a later investigation, therefore (Pace, 1980), kindergartners and second graders who did not suggest relistening were told they could do so and then were allowed to answer questions again. Although second graders corrected a significantly greater proportion of their comprehension questions than kindergartners, the younger children could make corrections. Overall, kindergartners corrected about 38% of their responses; second graders, approximately, 48% of theirs. Thus, with guidance, younger school-aged children are able to identify information that will improve their comprehension.

Another aspect of metacomprehension is the ability to detect information in a text which either conflicts with the knowledge someone has about the world or with other statements in a passage. Pace (1979a) has recently investigated children's awareness of knowledge-text inconsistencies. Markman (1979) has looked at their detection of inconsistencies within a text. Pace (1979a) found that two-thirds of the children in the second, fourth, and sixth grades who read stories were aware of story details which conflicted with their usual expectations for common situations.

However, three-quarters of the kindergartners and second graders who listened to the same stories failed to notice these inconsistencies. In a subsequent study (Pace, 1979b), attention was called to such anomalies, either by forewarning children to listen for them or by making them even more out-of-the-ordinary thus, probably, more salient. Under either condition, younger listeners were able to detect the inconsistencies far more often than before. Markman's (1979) study demonstrated that third, fifth, and sixth graders experienced great difficulty detecting contradictory information which was implicit in a story, though they did better when the inconsistencies were explicit. Asking children to repeat sentences containing inconsistent propositions or warning them to expect "something tricky" improved the performance of sixth graders in most conditions, but not that of third graders. Thus, apparently, many factors influence whether elementary-aged children will detect story inconsistencies.

Sensitivity to structural and organizational features of prose passages may develop relatively late in the school years. Brown and Smiley (1977) found that, although third and fifth graders tended to recall those idea units rated by adults to be most important to a story, the students themselves did not seem able to differentiate idea units according to their relative importance. This apparent lack of metacomprehension ability, the authors suggest, may limit the extent to which elementary-grade students can utilize strategies effectively for learning. This contention was supported by a later study by the same authors (Brown & Smiley, 1978), which showed that fifth graders could not make efficient use of extra study time and did not benefit from suggestions to underline or take notes unless they spontaneously employed such study strategies

appropriately. Thus, elementary-school children seem to lack some crucial insights into text structure and consequently have difficulty identifying what to study.

DiVesta, Hayward, and Orlando (1979) utilized a variation of a cloze procedure to assess whether readers could make use of information in different parts of a passage to achieve comprehension. In some paragraphs, content-dependent words were deleted toward the beginning of the passage. To supply appropriate words for these deletions presumably required searching the remainder of the paragraph for the needed information. In other passages, similar words were deleted toward the end of the paragraph. DiVesta et al. found that less mature readers, whether in high school or upper elementary grades (sixth grade) performed much better on the end-of-paragraph deletions than on those at the beginning of passages. There was much less difference in these scores, however, for better high school readers or older students. The authors thus suggest that more able readers may more actively search material they read in trying to comprehend it.

What, then, do these several investigations reveal about the metacomprehension abilities of school-aged children? Although much additional research is needed, one conclusion seems fairly evident. Metacomprehension is not a unitary phenomenon, but encompasses several kinds of abilities and degrees of awareness. These may appear at different ages, but they also interact with task demands and situation, so that they may be manifest in certain circumstances but not in others. Clearly, younger elementary-school children do not seem to utilize spontaneously many procedures which could improve their comprehension. However, these studies do show that

various manipulations can be employed which will increase the possibility that children will attend to significant features of texts. If this is the case, then instructional procedures could be developed to train students to become more sensitive to their own comprehension. Many things good teachers do already accomplish this. Research into metacomprehension, however, may be able to make such efforts more planful by suggesting what can be done and why with children of different levels of ability.

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